

Wildfire & Flash Flood Recovery

NACo Justice & Public Safety Symposium

January 2014



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Recovery Specific to Incident

Recovery Efforts Depend on:

- Population Impacted
- Topography of Area
- Size and Extent of Disaster
- Homes Damaged/Destroyed
- Businesses Damaged/Destroyed
- Infrastructure Damage/Destroyed
- Utilities Damaged/Destroyed
- Jurisdictions
- Public Health Concerns
- Citizen & Volunteer Reponse
- Funding Resources



Waldo Canyon Fire

- June 23, 2012:
near Colorado Springs in western El Paso County
- Two people killed
- 18,247 acres burned, mostly mountainous steep terrain
- 347 homes destroyed
- More than \$40 million spent on fire recovery and flood mitigation to date



Waldo Canyon Fire Recovery Specifics

- Life Threatening Flash Flooding
- Multi Jurisdictional
- Risk to Federal, State and Local Infrastructure
- Modern Neighborhoods Zoning/Building Codes
- County and Municipalities Flash Flood Risk
- Dangerous Trees on Forest Service Land/Trails
- Community Water and Sanitation at Risk

Waldo Canyon Fire:

Flash Flooding is the New Normal

Loss of Life, Property and Critical Public Infrastructure



Major flash flood events

- **July 30, 2012:** Critical Colorado Springs Utilities water supply pipeline destroyed – U.S. Highway 24 closed due to mudslide – Ute Pass Elementary School heavily damaged.
- **July 1, 2013:** Flash flooding washed vehicles off Highway 24 or buried them in mud and debris.
- **July 10, 2013:** Flash flooding and debris destroys six and damages 20 homes in Manitou.
- **Aug. 9, 2013:** Manitou Springs flooding is the worst disaster in Manitou Springs in decades. One man is killed, homes and businesses are destroyed. Highway 24 is closed for hours.
- **Sept. 11, 2013:** Heavy rains and flash flooding pound Manitou Springs and Colorado Springs. One man died. Highway 24 is closed for extended time periods over several days.

Waldo Canyon Fire: Life Safety Concerns

- No buffer zones between canyons and communities.
- U.S. Highway 24 is closed anytime National Weather Service Issues a **Flash Flood Warning**.
- 26,000 vehicles per day travel on this critical U.S. Highway connecting the Front Range to the mountains.



Waldo Canyon Fire: Detention Ponds Needed to Slow Runoff and Erosion



- Detention ponds and log erosion barriers slow down and spread out destructive flash flood waters off Waldo Canyon burn scar
- So far, flash flood detention basins have captured more than 14,000 tons of sediment and debris
- Other mitigation efforts are effectively slowing and dispersing dangerous runoff

Flood Risk Mitigation Efforts Address Life Safety and Protection of Infrastructure



El Paso County installed a TrapBag barricade system to protect Ute Pass Elementary.



Homes, businesses roadways and utilities along Fountain Creek remain at high risk.

Waldo Canyon Fire: With Best Efforts Recovery Will Take Decades - Decomposing Granite Slow to Heal



- Steep slopes with limited access
- USFS initial BAER mulch drops by helicopter
- Log erosion barriers and wattles by hand crews



Waldo Canyon Fire: Unprecedented Regional Collaboration



- Mitigation work by the Waldo Canyon Regional Recovery Group in 2013 totals more than \$40 million
- More than 41,000 hours of volunteer work has been completed by 6,000 people.
- Ongoing funding is needed to continue efforts and maintain completed projects

Waldo Canyon Fire: Colorado Springs Utilities

- Extensive work underway to stabilize and protect watersheds
- Ongoing mitigation on hillsides to prevent additional damage to reservoirs and critical water and electric lines
- Reforestation and seeding efforts



Waldo Canyon Fire: U.S. Forest Service Emergency Mitigation



- Construction of 33 sediment detention basins
- 18,260 feet of channel reshaped
- Hill slope stabilization through
 - Aerial mulching
 - Hand work
 - Log Erosion barriers
 - Seeding
 - Wattle installation
- Coordinating cultural and wildlife inventories
- Removal of hazards in recreational areas
- Forest Road maintenance

Waldo Canyon Fire: Colorado Department of Transportation Numerous Projects to reduce flash floods from entering U.S. Highway 24, sweeping away vehicles and eroding support structure. 24 Hour Monitoring & Detection in process.



Black Forest Fire

- June 11, 2013:
north of Colorado
Springs in
unincorporated
El Paso County
- Two people killed
- 14,000 acres
burned, heavily
forested area
- 488 homes
destroyed



Black Forest Fire Recovery Specifics

- Urban and Rural Mix, Unincorporated County
- Largely Built Before Zoning & Building Codes
- Tens of Thousands of Dangerous Trees on Private Property and County Land
- Wells and Septic Damage
- Multiple Utilities/Pipeline Rights of Way
- Flash Flooding, County Roads at Risk

Black Forest Fire: FEMA - Hazard Tree Removal

- FEMA funding removal of hazard trees considered safety hazard to public as a result of disaster declaration
- Tree removal needed in both the public right-of-way (ROW), Utility easements and on private property adjacent to public ROW
- Hazard trees are determined based upon criteria developed in conjunction with USFS and FEMA
- Right of entry approval required to gain legal access for tree removal on private property
- EPC is coordinating with Utility Companies
- EPC will hire contractor(s) to complete work within the required timeframe and project management



Black Forest Fire: Road Repairs

County crews have responded to several post-fire Flash Flood events



- 7'x7' Cement Block Culvert Installed
- Closed/barricaded flooded roads and wash-outs
- Swept or graded debris/sand off roads after water receded
- Repaired washed-out gravel roads & paved road shoulders
- Cleared culverts and ditches
- Repaired erosion in public rights-of-way
- 9,000 sandbags and sand (delivered) for flood protection
- Engineering analysis of critical culvert locations

Recovery:

Public Communication Efforts

Public Meetings in impacted areas to address

- Post fire public safety risks: restoration of Utilities, Flash Flooding, Dead Trees, Infrastructure damage/repair
- Insurance Advocacy – Consider Non-Profit like United Policyholders
- Recovery projects updates and timelines
- Communicate clearly funding requirements and efforts
- Interagency responsibilities and cooperation
- Non-profit resources
- Non-stop press releases, email blasts, social media, recovery information web page, etc – use all avenues

Recovery Collaboration

Identify Partners and Responsibilities now...



Government Agencies

- County
- Cities & Towns
- Utilities
- State Department of Local Affairs
- Office of Emergency Management
- U.S. Forest Service
- Natural Resources Conservation Service (NRCS)
- U.S. Congressional representation
- State Department of Transportation
- Army Corps of Engineering
- Water Quality: State and County Health Dept.
- U.S. Weather Service
- Other Jurisdictional Agencies

Recovery Collaboration

Identify Partners and Responsibilities now...

Coordinate for participation at a Disaster Assistance Center

Non Profits & Disaster Assistance

- Goodwill
- United Way
- Red Cross
- United Policyholders
- Insurance Agencies
- Food Banks
- Faith Based Organizations
- Environmental Organizations
- Mental Health Organizations
- Local Agencies that can help with funding, volunteers, food, clothing, health care, home building organizations, etc.



Recovery Collaboration

What You Can Provide.

Coordinate for participation at a Disaster Assistance Center



County & Affiliated Agencies

- Budget & Finance (FEMA)
- Transportation/Fleet
- Engineering
- Assessor
- Human Services
- Public Health
- Regional Building
- Environmental Services
- Sheriff's Office
- Office of Emergency Management
- Public Information
- Workforce Center
- Small Business Development Center

Prevention is Critical



- The same conditions that contributed to the Waldo Canyon Fire and subsequent flooding exist in lands adjacent to the burn scar
 - Major population centers and life safety at risk
 - Communities and critical U.S. highway connecting the Front Range to the mountains

Prevention is Critical

- Healthy forest management is a fraction of the cost of fighting and recovering from forest fires and floods.
 - A healthy forest has 100 trees per acre; a typical acre in Pike National Forest has 1,000 trees
 - Forestry projects that prevent catastrophic forest fires are key to limiting lasting regional economic impact from fires and flash floods
 - There is approximately 212,000 acres of Pike National Forest in El Paso and Teller Counties; 18,000 acres burned in the Waldo Canyon Fire
 - National Forest officials say all acreage needs active management



Needs for Current & Future Projects

- Emergency Watershed Protection Program funds to initiate and complete projects and expand mitigation.
- Funds to restore healthy forests to prevent catastrophic wildfires and damage to watersheds and communities.
- Funds needed for hazardous fuel reduction to aid in healthy forests.
- Continuation of Good Neighbor Authority and Forest Stewardship Program under the Farm Bill critical in current and future forest fire mitigation projects.
- Funds (Hazard Mitigation Grant Program) needed to purchase private property that is repeatedly flooded to reduce long-term risk and insured losses.

Legislative & Funding Needs

- U.S. Forest Service Healthy Forest Initiatives
- Natural Resources Conservation Service (EWP)
- Biggert Waters Act & NFIP insurance premiums
- FEMA – National Flood Insurance Program & HMGP
- Community Development Block Grant flexibility
- Stafford Act changes to include post-fire floods
- Army Corps of Engineers (Sec. 205 assistance)
- Department of Defense support for forest mitigation near Cheyenne Mountain
- EPA and watershed restoration and protection
- Transportation infrastructure

Questions

